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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Washington, DC 20005-3096

EXAMINER

ALL HATTEM

ART UNIT	PAPER NUMBER
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3692

MAIL DATE	DELIVERY MODE
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10/06/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/763,391

Applicant(s)

NAKABAYASHI ET AL.

Examiner

HATEM ALI

Art Unit

3692

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The following is a **Final Action** on merits in response to a communication received on **8/20/2008**.

Acknowledgement

2. The amendments to **claims 1, 7, 10 and 16** received on **8/20/08** have been entered. As such **claims 1-20** are pending.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 7-9, and 16-20 are rejected under 35 U.S.C. § 101 based on Supreme Court precedent, and recent Federal Circuit decisions, a § 101 process must (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing. *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780,787-88 (1876).

The process steps in **claims (7-9 and 16-20)** are not tied to another statutory class nor do they execute a transformation. Thus, they are non-statutory.

Claim Rejections - 35 USC § 112

4. The following is a quotation of **the first paragraph** of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. **Claims 16-20** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Particularly referring to the **claim 16**, in the recitation, "a second determination mode in which a bill determined as unidentified as a result of the first determination is automatically determined again in the same determining part set at the second determination accuracy without being handled by a customer", automatically determined again ... handled by a customer is a new matter and not found (word automatically) in the specification.

3. The following is a quotation of **the second paragraph** of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6 and 10-15 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In particular, **claims 1 and 16**, recite in the preamble "a sheet handling apparatus", the body of the claim does not contain any limitations indicating the structure of the device. A system or an apparatus claim should always claim the structure or the hardware that performs the function of Applicant's claimed invention.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Kawakami*** (4,769,532) in view of ***Zoladz*** (5,855,268).

As per claim 1, ***Kawakami*** discloses a sheet handling apparatus comprising:

a detection part (see **Figs.2 & 3** and **col.4**, lines 22-30; via a **CPU** [central processing unit] for controlling a bill [sheet] discrimination device and the like to which **# 1- 5** including light emission controlling circuit) that detects a characteristic of a sheet transported by a transport module;

an amplifier that amplifies a signal obtained from the detection part (**col.4**, line 53, and **Fig.2 # 10**)

an A/D converter that converts an analog signal amplified in the amplifier to a digital signal (**col.4**, line 52; via an A/D converter **11** with amplifier **10** and also in **Fig.2**);

determining means (**CPU**) that determine the truth of the sheet (**true or false [unidentified/undefined]**) by use of a signal having been produced as a result of A/D conversion by the A/D converter (**col.4**, lines 22-30 and **Figs 2 and 3 # 1**; via a **CPU #1** for controlling a bill discrimination device); and

a control part (see **Fig.2**; via **CPU** inherently programmed) that changes signal read accuracy of the detection part,

wherein, if the sheet is determined as unidentified as a result of determining the truth of the sheet in the determining means, the control part changes a setting of conditions so that a capability to determine the sheet is higher than when the sheet was determined as unidentified, and transports an unidentified sheet determined as unidentified to the detection part and performs the truth determination again under the changed conditions in the determining means (**CPU-** as per programmed and inherently setting condition it does all operations to determine true or false under changed condition [**unidentified/undefined etc. whatever set**]).

Kawakami fails to teach details about the sheet (bill) transported by a transport module.

However, **Zoladz** in the same field of invention discloses the concept of bill (sheet) transported past a plurality of photosensors and phototransistors (**col.1 & 3**,

lines 15-20, 10-50, & **Fig.1**; via transport unit **1** connected to a bill stacker **2** and cashbox **5**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the transport module to include a currency validator and transport **unit 1** in order to facilitate the complete process of movement, validation and denomination of paper currency or bill (sheet).

As per claims 2 and 3, *Kawakami* discloses the control part changes an amplification factor of the amplifier corresponding to denominations (**col.6**, lines 24-65, and **Figs.5 & 6**; via **CPU**, amplifier **10** and amplification **factor**).

As per claims 4 and 5, *Kawakami* discloses that the control part changes and sets conditions to narrow a range between an input upper limit value and an input lower limit value of the A/D converter (**col.6**, lines 50-58; via function of **A/D converter 11**. and **CPU** with control part).

As per claim 6, *Kawakami* discloses that the sheets determined as unidentified by the determining means include sheets in which characteristics indispensable to true bills were detected but which exceed a permissible error (**col.6**, line 23; via **CPU 1**[Central Processing Unit] for controlling a bill discrimination device and the like).

As per claim 7, Kawakami discloses a method of determining bills in a bill handling apparatus (see **Abstract**; via an automatic cash receiving and dispensing machine), comprising the steps of:

sending a bill to a determining part to perform determination (**col.6**, line 25 and **CPU** controlling apparatus);

detecting characteristics of the bill by a detection part (**Fig.2 # 5**);

processing a signal from the detection part (**Fig.5**; via **5, 6, 10, 11, 12 to CPU 1**) and determining a denomination and truth of the bill (**col.4**, line 23, **Fig.2**, **CPU** controlling bill discrimination device);

as a result of the truth determination, classifying the bill into one of at least four types of bills to process the bill, the four types of bills being true bills determined as true, false bills lacking characteristics indispensable to true bills, unidentified bills having characteristics indispensable to true bills but exceeding a permissible error thereof, and undefined bills the denominations of which cannot be determined (**Figs 5-10**; **col.4**, lines 23-65 and **CPU**, inherently capable of changing first mode and second mode per intended programs for truth determination);

if the bill is determined as an unidentified bill, changing an amplification factor or resolution of the detection part so as to increase accuracy to determine the bill; and

after the change, sending the unidentified bill to the determining part again to detect the characteristics of the bill to perform the truth determination under changed conditions of the amplification factor or resolution of the detection part in the

determining means (**Figs 5-10 & col.4**, lines 23-65 and **CPU**, with inherent means capability to perform as programmed).

Kawakami fails explicitly to disclose that the false bills lacking characteristics indispensable to true bills, unidentified bills having characteristics indispensable to true bills but exceeding a permissible error thereof, and undefined bills the denominations of which cannot be determined.

However, **Zoladz** being in the same field of invention discloses that the false bills lacking characteristics indispensable to true bills, unidentified bills having characteristics indispensable to true bills but exceeding a permissible error thereof, and undefined bills the denominations of which cannot be determined (**col.4**, line 39; via the microcontroller **# 32** performs all processing of signals to validate and denominate an inserted banknote)

Therefore, it would be obvious to an ordinary skill in the art at the time of invention was made to modify the disclosure of **Kawakami** to include the features mentioned as taught by **Zoladz** to facilitate in order to use banknote (bill) for validation including denomination with vending or slot machines.

As per claim 8, Kawakami discloses that the changing step changes an input range of the A/D converter (**col. 6**, lines 50-60).

As per claim 9, Kawakami discloses that, as a result of the truth determination, an undefined bill is returned to a user, a bill determined as an unidentified bill and a bill determined as a false bill in another determination are stored in the machine, and a bill

determined as an undefined bill in yet another determination is returned to the user (CPU is capable as programmed and determines the bill, true or false [unidentified / undefined] and transport accordingly).

As per claim 10, *Kawakami*, discloses that a sheet handling apparatus, comprising:

a determining part (**col.4**, lines 22-30; via controlling circuit # 5) that determines the truth of sheets transported by a transport module;

a control part (**Fig.2**. with control circuit # 5) that changes accuracy to determine the sheets in the determining part.

Kawakami fails to teach about a stocking part (**storage**) that temporary holds sheets determined as unidentified in the determining part, wherein, if the sheets are determined as unidentified in the determining part, the control part changes a determination condition so as to increase the determination accuracy of the determining part, and transports the sheets determined as unidentified to the determining part again to determine the truth of the sheets under a changed condition of the accuracy in the determining means.

However, ***Zoladz*** in the same field of invention discloses that temporary holds sheets determined as unidentified in the determining part, wherein, if the sheets are determined as unidentified in the determining part, the control part changes a determination condition so as to increase the determination accuracy of the determining part, and transports the sheets determined as unidentified to the determining part again to determine the truth of the sheets under a changed condition of the accuracy in the

determining means. the concept of after validation **storage** of bill in a **currency cashbox 4 (col.3, lines 10-60; via a currency validator ... to encounter a plurality of optical and other sensors ... to a stacker ... for storage in a currency cashbox).**

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the features mentioned by **Kawakami** to include the disclosures as taught by **Zoladz** in order to facilitate to handle paper (sheet) currency as quickly as possible.

As per claim 11, Kawakami discloses the determining part comprises:

a detector that detects a characteristic of a sheet, an amplifier that amplifies a signal obtained from the detector, an A/D converter that converts an analog signal amplified in the amplifier to a digital signal; and determining means that determine the truth of the sheets by use of a signal produced as a result of A/D conversion by the A/D converter (**Fig. 2; via # 5, 6, 9, 10 and 11**),

wherein, if the sheet is determined as unidentified in the determining part, the control part changes signal read accuracy of the detector so as to increase a capability to determine the sheet, and transports the sheet determined as unidentified to the detector to again determine the truth of the sheet in the determining means (**Fig.2 and CPU # 1**).

Claims 12 and 13 are rejected as per reasons set forth in claim 10.

Claim 14 is rejected as per the reasons set forth in claim 2.

Claim 15 is rejected as per the reasons set forth in claim 4

8. **Claims 16-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kawakami** (4,769,532) in view of **Zoladz** (5,855,268) and **Negishi** (6,588,570).

As per claim 16, Kawakami discloses a method of determining bills in a bill handling apparatus, comprising:

a first determination mode in which denominations and truth of the bills are determined with first determination accuracy in the determining part (**Figs.5, 6 and 7; via determination steps**);

setting second determination accuracy as higher bill determination accuracy if a bill is determined as an unidentified bill as a result of determination in the first determination mode (**Figs.6; via S11 adjusting mode to S21 for completion of mode "Normal" or "Repeat of Process" as second mode or more form reference level; see col.7 & 8**);

a second determination mode in which a bill determined as unidentified as a result of the first determination is automatically determined again in the same determining part set at the second determination accuracy without being handled by a customer (**Figs.5-10; via CPU is doing steps as programmed**); and

processing bills determined as unidentified or false bills as a result of determination in the second determination mode separately from other bills (**Figs.5-10; via CPU is doing as programmed**).

Kawakami fails to disclose a second determination mode in which a bill determined as unidentified as a result of the first determination is automatically

determined again in the same determining part set at the second determination accuracy without being handled by a customer.

However, **Negishi** being in the same field of invention discloses a second determination mode in which a bill determined as unidentified as a result of the first determination is automatically determined again in the same determining part set at the second determination accuracy without being handled by a customer (**col.4**, lines 22+; via the bill validator **1** ... insertion start state [implied first mode of determination] ... if the bill **2** is normally inserted, the controller **21** ...[**col.5-6**] and **col.7**, line 40; via bill validator **41** ... as bill validating means or bill insertion detecting/validating means ...).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the features mentioned by **Kawakami** to include the disclosure as taught by **Negishi** to facilitate the validation of bills [second mode] in state overlapped/abnormal object/counterfeit/unidentified - not accurately judged to further correctly detection stage by comparator, controller and validation unit to final stage.

Kawakami fails to disclose the step of transporting bills to a determining part to perform determination.

Zoladz in the same field of invention discloses the step of transporting bills to a determining part to perform determination (**Fig. 2A** and **col.3**, lines 20-50; via transport system **1** to currency validator for detection and determination).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the disclosure and features as taught by

Kawakami to include the disclosure of **Zoladz** to facilitate the transport system 1 of banknote for proper validation.

As per claim 17, Kawakami discloses that the first determination mode includes the steps of:

detecting the characteristics of the bills by a detector; and processing a signal from the detector to determine the truth of the bills (**Figs.5, 6 and 7**; via determination steps);

As per claim 18, Kawakami discloses the setting accuracy so as to increase the amplification factor or resolution of the detector for detecting the characteristics of the bills in the second determination mode (**Figs.5-10**; via **S11** adjusting mode to **S21** for completion of mode "Normal" or "Repeat of Process" as second mode or more form reference level; also see **col.7 & 8**).

As per claim 19, Kawakami discloses the step of storing information about sheets determined as false bills or unidentified bills in the second determination mode in a storing part in association with information capable of identifying users of the bills (see **Figs.5-10**; via CPU inherently doing steps as programmed).

As per claim 20, Kawakami discloses further the step of having users confirm an inputted amount if a bill is determined as an unidentified bill as a result of determining the bill in the first determination mode (**Figs.5-10**; via CPU inherently doing as programmed).

. Response to Arguments

9. **Applicant's** arguments with respect to **claims 1-20** have been considered but are moot in view of the new ground(s) of rejection.

In response to **Applicant's** argument, it is respectfully noted that as we understand, references are cited as they teach and suggest the concept of the invention, but not the actual invention the Applicant applied for.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HATEM ALI whose telephone number is (571)270-3021. The examiner can normally be reached on 8.00 to 6.00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Abdi can be reached on 571-272-6702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Harish T Dass/
Primary Examiner, Art Unit 3692

Hatem Ali
Examiner
Art Unit 3692